IN THE CLAIMS:

Please cancel claims 1-7 without prejudice or disclaimer as follows.

1-7. (Cancelled)

8. (Previously Presented) A method of forming a ceramic matrix composite, the method comprising the steps of:

selecting chemical compositions for non-oxide fibers, a thin and mechanically weak interphase material, and a non-oxide or oxide matrix;

forming the non-oxide dimensionally-stable fibers into complex architectures;

depositing the thin and mechanically weak interphase material on the non-oxide fibers;

depositing the non-oxide or oxide matrix on the interphase material;

processing the non-oxide fibers, the interphase material, and the non-oxide or oxide matrix such that, after a final composite processing, debonding or mechanical decoupling is already achieved between the interphase material and the non-oxide or oxide matrix,

wherein fiber debonding is induced after matrix consolidation via heat treatments of thermally induced stress states that act on the fiber interphase on cool down.

9. (Original) The method as recited in claim 8, wherein the chemical compositions of the non-oxide fibers, non-oxide or oxide matrix, and an outer surface

layer of the interphase or an inner surface layer of the matrix are selected so that, during composite processing, sufficient residual stress exists in the composite to debond the interphase material from the matrix while retaining a mechanical bond between the interphase and fibers.

10. (Original) The method as recited in claim 8, wherein the processing step comprises subjecting the composite to a heat treatment at a temperature that causes shrinkage of the interphase coating.

11. (Original) The method as recited in claim 10, wherein non-oxide fiber types and matrix morphologies and compositions are selected to be microstructurally stable at temperatures above the interphase formation temperature.

12. (Original) The method as recited in claim 10, wherein the non-oxide fibers comprise thermally stable chemical compositions based on at least one of silicon carbide, silicon nitride, and carbon.

13. (Original) The method as recited in claim 10, wherein the interphase material comprises chemical compositions that are non reactive with the non-oxide fibers.

14. (Original) The method as recited in claim 10, wherein the deposition temperature for the interphase material is selected to produce a dimensionally unstable interphase morphology that allows interphase shrinkage upon higher temperature exposure.

15. (Original) The method as recited in claim 10, wherein the deposition conditions for the non-oxide or oxide matrix on top of the interphase results in an initially dense matrix layer.